ABSTRACT

An intake pipe downstream of a throttle valve is interconnected with an exhaust pipe via an EGR supply pipe and an EGR control valve is disposed in the EGR supply pipe. An engine load ratio (KLoff) in the engine steady operation with the EGR gas being not supplied, and another engine load ratio KLon in the engine steady operation with the EGR gas being supplied are expressed with respective linear functions of an *intake pipe pressure* (Pm) and stored in advance. The *intake pipe pressure* (Pm) is detected, KLoff and KLon are calculated from the detected *intake pipe pressure* (Pm) using the linear function expressions and, then, a difference between these values ΔKL (= KLoff - KLon) is calculated.

Based on the difference (ΔKL), the *EGR control valve passing-through gas amount*, which is an amount of the EGR gas passing through the EGR control valve, is calculated.